

**BEST MANAGEMENT PRACTICES FOR
PUBLIC WORKS CONSTRUCTION**

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ATTACHMENTS

- Exhibit A: Best Management Practices and Document References
- Exhibit B: Common BMP Restrictions
- Exhibit C: Public Facilities and Resources Department Standard Plans (Orange County Environmental Management Agency Standard Plans) 1326, 1327, 1328, 1329 and 1330

1.0 INTRODUCTION

This Appendix fulfills requirements of Section 8.6 of the 1993 DAMP for developing a public works construction storm water pollution prevention program to regulate public works construction. The requirements are modeled after the Construction Permit. Federal and State regulations and related information are incorporated by reference. A storm water pollution control program will be implemented to reduce pollutants in stormwater run-off from construction sites to the maximum extent practicable. This Appendix provides guidance to Permittees for uniform implementation of NPDES requirements and individual Permittees will continue to retain the ability to add, amend, or delete specific requirements to reflect local conditions.

2.0 REGULATORY REQUIREMENTS

This Appendix applies only to Permittee public works construction projects. Public works construction projects shall comply with the Construction Permit where applicable. Permittees awarding a public works construction contract shall submit a Notice of Intent (NOI) to the State Water Resources Control Board.

3.0 BEST MANAGEMENT PRACTICES FOR PUBLIC WORKS CONSTRUCTION

3.1 General Criteria

Public works construction activities will implement non-structural (source control) and structural Best Management Practices (BMPs) to control contaminated storm water run-off to the maximum extent practicable (MEP), where MEP is defined in the NPDES permit as "...the maximum extent possible, taking into account equitable considerations of synergistic, additive, and competing factors, including but not limited to, gravity of the problem, fiscal feasibility, public health risks, societal concern, and social benefits."

BMPs selected are to be based on rational criteria including magnitude and type of potential pollutants, water quality objectives of receiving water bodies, and the principle of MEP. As a minimum, BMP selection shall be consistent with the Construction Permit. A BMP list with corresponding reference documents is provided for information purposes as Exhibit A.

Other sources for BMPs are found in Permittees' approved standard plans and BMPs listed in the Construction Permit and EPA documents. Another reference on storm water retention for removal of sediment and other pollutants is found in "Methodology for Analysis of Detention Basins for Control of Urban Run-off Quality", EPA440/5-87-001.

3.2 Sediment and Erosion Control

Ordinances regulating sediment and erosion control are found with most if not all Permittees. In the absence of such ordinances, the Principal Permittees Grading and Excavation Code (Title 7, Division 1, Article 8 of the Codified Ordinances) and the Grading Manual (Board of Supervisors Resolution No. 81-1358) are considered as meeting the sediment and erosion control requirements. Grading and excavation codes of Permittees not inconsistent with the Principal Permittee codes considering local conditions, are also considered as BMPs meeting the sediment and erosion control requirements. The Construction Permit BMPs are also considered suitable for meeting the sediment and erosion control requirements.

Where desilting is found to be required for sediment control, appropriate BMPs such as the Principal Permittees Standard Plans 1326-Pipe Entrance to Earth Channel, 1327-Desilting Basin, 1328-Sandbag Velocity Reducer, 1329-Street Desilting Basin, and 1330-Temporary Drainage Inlet (attached as Exhibit B) are considered as meeting sediment control requirements (Metric version of these plans are found in PFRD Metric Standard Plans). Similar or equivalent sediment control BMPs of other Permittees, not inconsistent with the Principal Permittee Standard Plans, considering local conditions, are also considered as meeting the sediment control requirements.

3.3 Public Works Construction Practices

Public works construction practices from the latest edition of “Standard Specifications for Public Works Construction” (SSPWC) are considered as meeting the sediment, erosion, and pollutant control requirements in the NPDES Stormwater Permits.

The following specific construction practices for public works construction are found in SSPWC Section 7 – “Responsibilities of the Contractor”, and will be followed by contractors working for Permittees:

- **Cleanup and Dust Control**

Throughout all phases of construction, including suspension of work, and until final acceptance of the project, work site shall be kept clean and free from rubbish and debris. Dust nuisance will be abated by cleaning, sweeping, and sprinkling with water, or other means as necessary. The use of water resulting in mud on public streets will not be permitted as a substitute for sweeping or other methods.

Where appropriate and when required, a self-loading motor sweeper with spray nozzles will be used at least once each working day to keep paved areas acceptably clean wherever construction, including restoration, is incomplete.

Materials and equipment shall be removed from the site as soon as there are no longer necessary, and upon completion of the construction project, the site shall be cleared of equipment, unused materials, and rubbish so as to present a clean and neat appearance

Care shall be taken to prevent spillage of earth or construction materials offsite and in haul routes. Any such spillage shall be removed immediately and the area cleaned.

- Sanitation

All enclosed toilets for the use of employees at the construction site shall be maintained in a neat and sanitary condition. These facilities shall comply with all applicable laws, ordinances, and regulations pertaining to the public health and sanitation of dwelling and camps.

Sanitary sewage flow shall not be interrupted. Should existing sewer facilities be disrupted, sewage shall be conveyed in closed conduits and disposed of in a sanitary sewer system. Sewage shall not be permitted to flow in trenches or be covered by backfill.

- Water Pollution Control

Construction activities will be conducted in a manner to protect channels, storm drains, and bodies of water from pollution. Operations shall be scheduled to minimize or avoid muddying and silting of said channels, drains, and waters. Water pollution control work shall consist of constructing the necessary facilities required to provide prevention, control, and abatement of water pollution.

- Drainage Control

Drainage within and through the work areas will be maintained. Temporary dams of sandbags, asphaltic concrete, or other acceptable material will be used to protect the work site as appropriate. Such temporary dams shall be removed from the site as soon as their use is no longer necessary.

- Storage of Equipment and Materials in Public Streets

Construction materials shall not be stored in streets, roads, or highways for more than five (5) days after unloading. All materials or equipment not installed or used in the construction within 5 days after unloading shall be stored elsewhere unless authorized additional storage time.

Excavated material, except that which is to be used as backfill in the adjacent trench, shall not be stored in public streets, roads, or highways unless otherwise permitted. After placing backfill, all excess material shall be removed immediately from the site.

- Special Hazardous Substances and Processes

Material usage shall be accomplished with strict adherence to California Division of Industrial Safety requirements and all manufacturer's warnings and application instructions listed on the Material Safety Data Sheet and on the product container label.

4.0 STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

For public works construction activities that result in a disturbance of five acres or more of total land area (or a smaller construction site which is part of a larger common project) a Storm Water Pollution Prevention Plan (SWPPP) will be prepared and implemented. The SWPPP shall be consistent with the Construction Permit and the provision of this Chapter.

Public works construction activities less than 5 acres are required by the DAMP to comply with appropriate pollution prevention control practices in accordance with the current edition of the Green Book and the provisions of this Chapter.

5.0 MONITORING PROGRAM AND REPORTING REQUIREMENTS

Public works construction activities requiring a SWPPP will also require preparation and administration of a storm water monitoring program. The monitoring program will be consistent with the Construction Permit.

5.1 Implementation

Each Permittee will be responsible for implementing these requirements until construction activity is complete.

For ongoing construction activity involving a change in ownership of property covered by the Construction Permit, each Permittee will ensure that the new owner implements the requirements of the Section, concurrent with the change of ownership.

5.2 Site Inspections

The construction inspector, accompanied by the contractor will conduct inspections of the construction site prior to anticipated storm events and after actual storm events to identify areas contributing to a storm water discharge associated with construction activity and to evaluate whether BMPs to reduce pollutant loadings identified in the SWPPP are adequate and properly implemented in accordance with the terms of the Permit or whether additional control measures are needed. A record of the inspections will include the date of the inspection, the individual(s) who performed the inspection and the observations.

5.3 Non-Compliance Reporting

Each Permittee will notify the appropriate Regional Water Quality Control Board if compliance cannot be certified and /or if there are other instances of non-compliance. The notifications will identify the type(s) of non-compliance, describe the actions necessary to achieve compliance, and include a time schedule, subject to the modifications by the Regional Water Quality Control Board, indicating when compliance will be achieved. Non-compliance notifications will be submitted within 30 days of identification of non-compliance.

5.4 Monitoring Records

Each Permittee will retain records of all inspections, compliance certifications, and non-compliance reporting for a period of at least three years. With the exception of non-compliance reporting, these records need not be submitted to the State.

For purpose of compliance with the NPDES Stormwater Permit, each Permittee will report instances of non-compliance in the annual reconnaissance report to the Principal Permittee, and will maintain the monitoring records in Permittee files on each public works project.

6.0 TRAINING PROGRAM FOR PUBLIC AGENCY STAFFS

To ensure uniform enforcement, all grading, building, and public works construction inspectors, and all other appropriate public agency staff members will be provided adequate training. A general training program will be developed by the Public Facilities and Resources Department and provided to all Permittees. The training objectives include but are not limited to:

- Historical background and Federal Acts
- EPA and State NPDES regulations – Construction and Industrial permits
- NPDES Stormwater permits and stormwater permit Implementation Agreement
- Selection of BMPs for pollutant control
- Inspection of non-structural BMPs
- Monitoring requirements

7.0 EDUCATION PROGRAM FOR PUBLIC WORKS CONTRACTORS

Contractor training will be included as part of pre-job conferences, to address:

- Historical background, Federal, State, Municipal NPDES regulations
- State General Construction Activity Storm Water Permit
- Selection of BMPs for pollutant control
- Compliance with Municipal NPDES permit
- Monitoring requirements
- Review of Storm Water Pollution Prevention Plan Requirements

EXHIBIT A

BEST MANAGEMENT PRACTICES AND DOCUMENT REFERENCE Non-Structural BMPs

Non-Structural BMPs	(See references below)			
	1	2	3	4
Illicit Connection/Non-Stormwater Discharge Elimination	X	X		
Spill Prevention and Response	X			
Vehicle or Equipment Fueling	X			
Vehicle or Equipment Maintenance	X			
Vehicle or Equipment Washing	X			
Loading/Unloading Liquid Materials	X			
Container Storage of Liquids, Food Wastes	X			
Outside Storage of Raw Materials, Products, By-Products	X	X		
Outside Manufacturing Activities	X			
Mineral Extraction and Processing	X		X	
Sanitation			X	X
Financial Bonding			X	
Inspection			X	

1 - California Best Management Practices Handbook

2 - Standard Specifications for Public Works Construction

3 - Orange County/PDSD Grading and Excavation Code and Grading Manual

4 - Orange County/PFRD Standard Plans

EXHIBIT A

BEST MANAGEMENT PRACTICES AND DOCUMENT REFERENCE Structural BMPs - Contractor Activity

Structural BMPs - Contractor Activity	(See references below)			
	1	2	3	4
Equipment Fueling	X			
Disposal of Construction Debris	X	X	X	
Vehicle Maintenance and Cleaning	X			
Storage of Construction Chemicals	X			
Managing Hazardous Products	X	X		
Equipment Washing	X	X		
Spills	X	X		
Contaminated Soils	X			
Concrete Trucks	X			
Sandblasting Grits	X			
Asbestos and PCBs	X			

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EXHIBIT A

BEST MANAGEMENT PRACTICES AND DOCUMENT REFERENCE Structural BMPs - Erosion Control

Structural BMPs - Erosion Control	(See references below)			
	1	2	3	4
General Criteria				
Minimize Disturbed Areas	X		X	
Prevent Erosion	X	X	X	
Remove Sediment	X	X	X	
Grading Clearance			X	
Grading Permit Required To Alter Watercourse			X	
Temporary Cover Practices	X		X	
Permanent Cover Practices	X		X	
Erosion Control				
Stabilize Construction Entrance and Tire Wash	X		X	
Construction Road Stabilization	X	X	X	
Dust Control	X	X	X	
Pipe Entrance to Earth Channel			X	X
Interceptor Drain			X	
Re-Evaluation After Each Rainstorm			X	
Velocity Dissipation Devices	X			
Drainage Swales	X		X	
Check Dams	X			
Storm Drain Inlet Protection	X		X	

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4 - Orange County/PFRD Standard Plans

EXHIBIT A

BEST MANAGEMENT PRACTICES AND DOCUMENT REFERENCE Structural BMPs - Sediment Removal

Structural BMPs - Sediment Removal	(See references below)			
	1	2	3	4
Silt Fence	X		X	
Straw Bale Barrier	X			
Brush Barrier	X			
Gravel Filter Berm	X			
Gravel Velocity Reducer				X
Temporary Drainage Inlet				X
Storm Drain Inlet Protection	X			X
Street Desilting Basin - Vehicle Access Ramp				X
Sedimentation/Desilting Basin	X			X

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2 - Standard Specifications for Public Works Construction

3 - Orange County/PDSD Grading and Excavation Code and Grading Manual

4 - Orange County/PFRD Standard Plans

EXHIBIT A

BEST MANAGEMENT PRACTICES AND DOCUMENT REFERENCE Structural BMPs - Long Term Pollution Control

Structural BMPs - Long Term Pollution Control	(See references below)			
	1	2	3	4
Infiltration	X			
Constructed Wetlands	X			
Wet Pond	X			
Wet Vault	X			
Extended Detention	X			
Sand Filtration	X			
Biofilters	X			
Multiple Systems	X			
Integration With Drainage Facilities	X			
Subsurface Drains				
Pipe Slope Drains				
Level Spreaders				
Offset Control Approaches				
Enhanced Air Pollution Controls	X	X		
Enhanced Process Wastewater Treatment	X			
Emerging Technologies	X			

1 - California Best Management Practices Handbook

2 - Standard Specifications for Public Works Construction

3 - Orange County/PDSD Grading and Excavation Code and Grading Manual

4 - Orange County/PFRD Standard Plans

EXHIBIT C
COUNTY OF ORANGE
PUBLIC FACILITIES AND RESOURCES DEPARTMENT
STANDARD PLANS

- 1326 Pipe Entrance to Earth Channel
- 1327 Desilting Basin
- 1328 Sandbag Velocity Reducer
- 1329 Street Desilting Basin - Vehicle Access Ramp
- 1330 Temporary Drainage Inlet